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Environmental Stewardship Concepts

March 22, 2004

Docket Clerk, US DOT Dockets
Room PL-401, Department of Transportation
4000 7th St. SW, Washington DC 20590-0001
RE: Docket No. MARAD 2004-17166-15

Dear Sir or Madam:

I submit these comments pursuant to the invitation of the US Maritime Administration (MARAD) and the US Department of Transportation (DOT) welcoming the public's opinion and comments on the draft Environmental Assessment on the Transfer of National Defense Reserve Fleet Vessels from the James Rivers Reserve Fleet for Disposal at Able UK Facilities, Teesside, UK (EA), 69 Fed. Reg. 9422 (Feb. 27, 2004).

In my comments I stress the draft EA's failure to properly assess the risk posed by polychlorinated biphenyls (PCBs) on all the affected environments, including those within US territory, UK territory, and the global commons. I am a nationally recognized expert on ecological risk assessment pertaining to endocrine disrupting chemicals and persistent organic pollutants, including PCB's. I have particular knowledge of and familiarity with contamination caused by PCBs in aquatic systems.

The draft EA is deficient in omitting the quantity of PCBs estimated to be on board the vessels proposed for export given the fact that those quantities are known, and may be as much as 300 tons.

If any accident or sinking occurs resulting in the immediate or eventual release of even a small amount of PCBs, particularly in the James River/Chesapeake Bay area or in the coastal waters of the United Kingdom, the resulting PCB contamination would likely be catastrophic for the marine environment and ultimately contaminate the human food chain.

PCB's pose serious threats to human health and the environment because of their high toxicity, persistence in the environment, and the tendency to accumulate and concentrate in organisms and their body tissues.

"Solid" v. "Liquid" PCBs

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Past MARAD documentation has claimed that PCBs in so-called "solid form" do not pose as grave a threat to the environment or human health as so-called "liquid PCBs." However, PCBs are not commonly classified as "solid" or "liquid" in the scientific community because in actuality the compounds only exist as viscous liquids. The so-called "solid" or "non-liquid" PCBs present on the vessels at issue here are more accurately characterized as liquid PCBs impregnated into porous materials such as gaskets, filters, and hoses, or mixed with paints. PCBs impregnated in solid materials share the same basic chemical structure of the PCBs in an oily liquid form. PCB's will migrate out of any matrix, and those PCBs are biologically active and toxic, regardless of whether the PCBs are in free liquid form, impregnated into porous materials (gaskets, filters, etc.) or in thick resins. The degree of movement of PCBs in or from any medium depends on physical conditions, especially the PCB concentration gradient, temperature, light and amount of water.

The migration from solid matrices into the environment is particularly likely in a submerged marine environment. The migration of PCBs impregnated in old, cracking, flaking, powdering, and crumbling, aged insulation, paint, and gasket materials, to the marine environment would be rapid if a vessel were submerged or flooded.

If a vessel were to accidentally sink, become flooded with sea or river water, and then be recovered, the sealed transformer, capacitor and hydraulic fluids containing PCBs may well be maintained in well-sealed units. However, in this scenario, PCBs will be released by crumbling, powdering, and fragmenting chips and fluff from so-called "solid PCBs."

In a scenario where a sunken vessel cannot be retrieved from the James River or the Tees River estuary, the persistence of PCBs will render them toxic and biologically active for a very long time in this Virginia and Chesapeake Bay watershed. PCBs are bioaccumulative in the food chain and will move from the contamination source into sediments and animal tissues, including fish that may be consumed by humans, bald eagles, and other wildlife in the region.

The draft EA also fails to disclose to the public that two of the vessels (Export Challenger and Wayne Victory) alone contain between 10,000 and 17,000 lbs of peeling paint. The volume of PCB-laden paint on all of the vessels should be disclosed because of the magnitude of contamination they pose to the environment.

Environmental Threat from PCBs

PCBs are of particular concern to human health and the environment because although their effects may not be immediate, they are likely to cause long-term toxic effects in fish, wildlife, and humans and/or in isolated places. In aquatic ecosystems, PCBs are found primarily in sediments because they are highly fat-soluble and not water-soluble. Humans are exposed principally, but not

exclusively, through the food chain by eating animals, notably fish, that have accumulated PCBs from the sediments. Often, concentrations of PCBs are increased through food chain accumulation and bio-magnification as one PCB-contaminated animal eats another. (We all note with dismay the recent data showing accumulation of PCBs in farm raised salmon owing to the PCBs in the salmon feed.) Human PCB exposure in the Chesapeake Bay ecosystem strives from two major sources: 1) consumption of seafood and other aquatic animals, and 2) inhaling atmospheric PCBs.

PCBs migrate from their sources into water and, albeit at lower concentrations, into soils, sediments and the air. This occurs by passive physical diffusion depending on temperature and other environmental conditions. Animals can and will also take up PCBs directly either by consuming the contaminated material or PCBs, or by absorbing PCBs through the skin. This last process is most common for animals such as worms that live in close and intimate contact with the contamination. This migration can occur as soon as the PCBs are introduced into an environmental medium and can continue for many years or decades, until the PCBs are completely released into the environment.

PCBs can migrate long distances in the atmosphere and when taken into the body cause developmental problems, especially neurodevelopmental problems. PCBs can cause or contribute to problems with human reproduction, embryonic and fetal development, brain growth and development, immune system functions, and cancer. Some PCBs act through a mechanism that combines PCBs, dioxins and furans in a common pathway, so that all the dioxins, furans and PCB's exert a single action. Children are particularly sensitive to the effects of PCB's, because early exposure to even low levels of PCB's can cause impairment of the brain and of behavior.

Fish, birds, and marine mammals are also especially sensitive to the effects of PCBs; the eggs, larvae and young are the most sensitive stages for most of these animals. Even concentrations of less than one part per billion in eggs can impair the growth of these animals or alter the normal growth of the young.

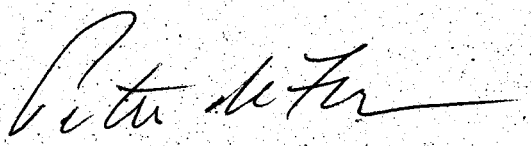
Any accidental PCB contamination of the Chesapeake Bay or coastal waters may harm natural populations of fish, birds and mammals and contaminate fisheries to the point that human health would be at risk. This sequence of events would demand the closing of Bay fisheries for commercial and recreational activity, as has happened on the Hudson and Housatonic Rivers in New York State.

The draft EA inappropriately fails to disclose or analyze the environmental and health risks that I outline here. Nor are the cumulative effects of the above-outlined risks disclosed or assessed. Given the quantities of PCBs on the vessels, the riverine and marine trafficking and export of these vessels over inland, coastal and open ocean waterways, poses substantial risks to human

health and the environment. Such risk could be prevented by elaborating options that either minimize marine transport or decontaminate vessels prior to export. Such options are not explored in the draft EA.

I urge the US DOT and MARAD to revise the Draft EA to more accurately and effectively account for and disclose the contamination from PCBs in the Defense Reserve Fleet Vessels. The revisions need to disclose the harm from PCB contamination and explain the human health effects and numerous environmental effects that are possible from PCB contamination as a result of routine or accidental release of PCBs from these vessels.

Sincerely,



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